In the Claims

The following Listing of Claims replaces all prior versions in the application:

LISTING OF CLAIMS

1. (Currently amended) Spectrometry diagnostic electronic circuit comprising digital data detection means corresponding to detected pulses and amplitude measurement means to associate a measured amplitude with a detected pulse ~~(24)~~, wherein pulse rejection means ~~(25)~~ use detected digital data to reject every pulse with a width that exceeds a pulse width threshold ~~(tc)~~ and any new pulse during a programmed time interval ~~(T3)~~, if a first pulse has been detected during the programmed time interval, and wherein calibration means include a histogram memory to sort digital data corresponding to the detected pulses that were not rejected by the pulse rejection means by calibration energy range when the detected pulses originate from a standard source.

2. (Canceled)

3. (Currently amended) Spectrometry diagnostic electronic circuit set forth in claim 1, ~~wherein~~further comprising:

- sort means ~~(28, 26)~~ to sort firstly all detected pulses and secondly detected pulses that were not rejected by the pulse rejection means, by detection energy range ~~(25)~~, and

- count means ~~(29, 27)~~ to count firstly all detected pulses and secondly detected pulses that were not rejected by the pulse rejection means, by detection energy range ~~(25)~~.

4. (Currently amended) Spectrometry diagnostic electronic circuit according to claim 1, further comprising ~~wherein~~ at least one circular memory ~~(M1, M2) stores~~ to store digital data at a configurable rate ~~(K2)~~.

5. (Currently amended) Spectrometry diagnostic electronic circuit according to claim 1, ~~wherein~~ further comprising means for excluding pulses ~~exclude pulses~~ for which the measured amplitude is less than an amplitude threshold value ~~(Es)~~.

6. (Currently amended) Spectrometry diagnostic electronic circuit according to claim 1, ~~wherein~~ further comprising at least one input amplifier ~~(A)~~ for amplifying ~~amplifies~~ detected analogue pulses and at least one analogue/digital converter ~~(A/N) converts~~ for converting the detected analogue pulses into said digital data.

7. (Currently amended) Spectrometry diagnostic electronic circuit set forth in claim 6, ~~wherein~~ further comprising~~the~~ circular memory ~~(M1, M2) memorises the~~ for memorizing history of data output from the analogue/digital converter ~~(A/N)~~.

8. (Currently amended) Particle counting system including particle detection means to form detected pulses and means ~~(15)~~ of processing the detected pulses, wherein the processing means ~~(15)~~ include a spectrometry diagnostic electronic circuit as set forth in claim 1~~comprising digital data detection means corresponding to detected pulses and amplitude measurement means to associate a measured amplitude with a detected pulse (24), wherein pulse rejection means (25) use detected digital data to reject every pulse with a width that exceeds a pulse width threshold (tc) and any new pulse during a programmed time interval (T3), if a first pulse has been detected during the programmed time interval.~~.

9. (Currently amended) Particle counting system set forth in claim 8, wherein the processing means ~~(15)~~ include a shared random access memory ~~(19)~~ connected to a communication network ~~(20)~~.

10. (Previously presented) Particle counting system set forth in claim 8, wherein the particles are hard X-rays.